

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number  
**WO 2005/042014 A1**

(51) International Patent Classification<sup>7</sup>: **A61K 39/12**,  
A61P 37/04, C12N 7/04, 7/01

(21) International Application Number:  
PCT/AU2004/001505

(22) International Filing Date: 29 October 2004 (29.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/515,267 29 October 2003 (29.10.2003) US

(71) Applicant (for all designated States except US): **THE UNIVERSITY OF QUEENSLAND** [AU/AU]; St Lucia, Brisbane, Queensland 4072 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KHROMYKH, Alexander A.** [AU/AU]; 12 Devonhill Street, THE GAP, Queensland 4061 (AU). **HALL, Roy** [AU/AU]; 4 Haldene Street, GRACEVILLE, Queensland 4075 (AU).

(74) Agent: **FISHER ADAMS KELLY**; Level 13 AMP Place, 10 Eagle Street, Brisbane, Queensland 4000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **WEST NILE VIRUS VACCINE**

(57) Abstract: A vaccine composition and method of administering same is provided that utilizes an isolated nucleic acid corresponding to substantially an entire Kunjin virus which upon administration to an animal is capable of eliciting a protective immune response to another, more pathogenic flavivirus such as West Nile virus NY 99 strain. The isolated nucleic acid may further encode at least one attenuating mutation in a Kunjin virus structural and/or non-structural protein. The isolated nucleic acid may be in the form of DNA linked to a promoter in a plasmid construct for expression *in vivo* or may be in the form of naked RNA or RNA packaged into VLPs. The composition and method may provide protective immunization of animals such as humans, equines and avians.

WO 2005/042014 A1